National Aeronautics and Space Administration

Cleaning Up Groundwater Beneath JPL

NASA's new on-site treatment plant is removing volatile organic compounds (VOCs) and perchlorate from groundwater beneath JPL.

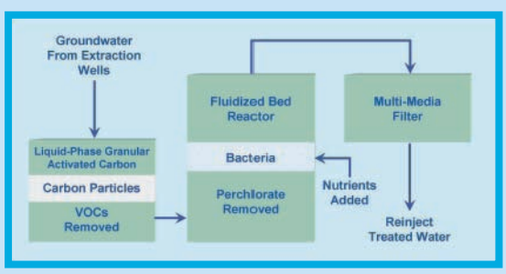
Benefits

Reduces highest levels of chemicals at the source area.

Limits the spread of chemicals in groundwater.

Helps reduce time needed for operating water treatment plants offsite.

NASA's new on-site water treatment plant is located in the north-central section of JPL. The highest levels of VOCs and perchlorate in groundwater have been found in this area.



How it Works:

Removing VOCs

Liquid-Phase Granular Activated Carbon (LGAC)

- Groundwater is pumped from wells.
- The water flows through very porous carbon particles that attract VOCs.
- Collected VOCs are properly disposed.
- Fresh carbon particles are placed in the tanks and the process continues.

Removing Perchlorate

Fluidized Bed Reactor

- "Starter" bacteria (initially gathered from a food production plant) are put in the tank.
- Added food and nutrients make the bacteria multiply.
- As water flows past, the bacteria destroy the perchlorate.
- A final filtering eliminates bacteria from the treated water.

A Fluidized Bed Reactor is removing perchlorate.

NASA's on-site facility can treat groundwater at flows of 250 gallons per minute.

A Liquid-Phase Granular Activated Carbon system (blue tanks) is removing VOCs.